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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Adel S. Al-Misfer

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EXAMINER

VERBITSKY, GAIL KAPLAN

ART UNIT

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2855

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/551,736	AL-MISFER, ADEL S.	
	Examiner	Art Unit	
	Gail Verbitsky	2855	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 24-46 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 24-39 and 42-46 is/are rejected.
- 7) ☒ Claim(s) 40,41 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 24-27, 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over as being anticipated by Brax (U.S. 4428686) in view of Nakano et al. (U.S. 4984904).

Brax discloses in Figs. 1-3 a thermal probe 6 for use in detecting temperatures at different levels in a liquid material, comprising: an elongated rod 5 having a proximal end and a distal end, wherein the distal end of the rod is tapered/rounded, the distal end making initial contact with the liquid material; a plurality of temperature-sensing junctions (Fig. 2); and each of the junctions includes a thermocouple, as claimed by Applicant, positioned along the longitudinal length of the rod, wherein each of the plurality of temperature-sensing junctions generates an electrical signal corresponding to the temperature of the liquid material contacting the respective junction; a plurality of electrical signal conveying members (conductors/ wires) which are wires, as claimed by Applicant, connected to the plurality of temperature-sensing junctions and extending to the proximal end of the rod for conducting the electrical signals and conductive means for conveying the electrical signals from the proximal end of the rod to a terminal/ measuring head 13, 8. Brax further teaches that the rod is comprised of insulating material (cement/ mineral insulation, col. 4, line 12). The measuring head 13, 8a has an edge 9 resting on an edge of a container 2. A sheath 11 made of a stainless sheath surrounding a plurality of thermocouples. The device would inherently require some sort of temperature display/ indication.

Brax does not explicitly teach a remote processor. Brax does not explicitly teach that the terminal head has an edge supported by the container.

Nakano discloses a device in the field of applicant's endeavor wherein, as shown in Fig. 9, a temperature measuring probe/ rod with a thermocouple junction has a terminal head with an edge resting on a container 31 (col. 9, lines 35-44). Although Nakano does not explicitly teach a processing device, as shown in Fig. 9 the

Art Unit: 2855

thermocouple wires are to be connected to some remote measuring/ indicating and thus, at least at some degree processing device. The step of attaching the probe to the container would inherently require the operator manual manipulation.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device disclosed by Brax so as to position the terminal head of the temperature measuring probe on the top of the container, as taught by Nakano, so as to protect the terminal head from being fallen into the container.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device disclosed by Brax, so as to convey a signal from the terminal head to a processing device. as taught by Zimmerman, this would allow the operator to control a few molten metal containers at the same time. The method steps will be met during the normal operation of the device stated above.

Claims 28-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brax and Nakano, as applied to claims above and further in view of Poole.

Brax and Nakano disclose the device/ method as stated above.

They do not explicitly disclose a plurality of apertures through an outer surface of the sheath and extending along the longitudinal length of the rod through which the plurality of junctions are respectively exposed to the liquid material.

POOLE discloses a thermal probe for use in detecting temperatures at different levels in a liquid material and includes a plurality of apertures (openings) for providing fluid communication between the interior and exterior of the probe (housing).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to include apertures in the probe of Brax and Nakano, as taught by POOLE in order to provide fluid communication between the interior and exterior of the probe.

The method steps will be met during the normal operation of the device stated above.

Claims 24, 28-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davis et al. (U.S. 419543) [hereinafter Davis] in view of Nakano.

Davis discloses in Figs. 1-2 a device in the field of applicant's endeavor comprising an elongated rod (10, 18, 20) having proximal and distal ends, the distal end is in contact with a liquid whose temperature is being measured; a plurality of temperature sensing junctions, a sheath/ refractory body 10 surrounding the rod, the

Art Unit: 2855

sheath 10 having a plurality of apertures (may be chipped away, col. 2, line 51) for the junctions, a plurality of electrical wires (electrical members) conveying temperature signals from the junctions to a remote processing device 40.

The device also has a support mechanism/ terminal head positioned horizontally.

Davis does not explicitly teach that the terminal head has an edge to rest on the container with the liquid.

Nakano discloses a device in the field of applicant's endeavor wherein, as shown in Fig. 9, a temperature measuring probe/ rod with a thermocouple junction has a terminal head with an edge resting on a container 31 (col. 9, lines 35-44). Although Nakano does not explicitly teach a processing device, as shown in Fig. 9 the thermocouple wires are to be connected to some remote measuring/ indicating and thus, at least at some degree processing device. The step of attaching the probe to the container would inherently require the operator manual manipulation.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device disclosed by Davis so as to position the terminal head of the temperature measuring probe on the top of the container, as taught by Nakano, so as to protect the terminal head from being fallen into the container.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device disclosed by Davis, so as to convey a signal from the terminal head to a processing device, as taught by Nakano, this would allow the operator to control a few molten metal containers at the same time.

The method steps will be met during the normal operation of the device stated above.

Claims 31-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brax and Nakano, as applied to claims 24-27, 30 above, and further in view of Arekapudi et al. (U.S. 5178009) [hereinafter AREKAPUDI].

Brax and Nakano disclose the device stated above.

They do not disclose each of the junctions includes a transistor or RTD.

AREKAPUDI teaches that a thermocouple and a resistance temperature detector (RTD) are art recognized equivalent temperature sensors in the field of liquid level control. Transistors are also well known equivalent temperature sensors.

Therefore, it would have been obvious to substitute a resistance temperature detector ('RTD) or a transistor temperature detector for the thermocouple temperature sensor used in the probe of Brax and Nakano, as taught or suggested by AREKAPUDI in order to measure the temperature of the probe.

The method steps will be met during the normal operation of the device stated above.

Claims 31-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davis and Nakano, as applied to claims 24-27, 30 above, and further in view of Arekapudi et al. (U.S. 5178009) [hereinafter AREKAPUDI].

Davis and Nakano disclose the device stated above.

They do not disclose each of the junctions includes a transistor or RTD.

AREKAPUDI teaches that a thermocouple and a resistance temperature detector (RTD) are art recognized equivalent temperature sensors in the field of liquid level control. Transistors are also well known equivalent temperature sensors.

Therefore, it would have been obvious to substitute a resistance temperature detector ('RTD) or a transistor temperature detector for the thermocouple temperature sensor used in the probe of Davis and Nakano, as taught or suggested by AREKAPUDI in order to measure the temperature of the probe.

The method steps will be met during the normal operation of the device stated above.

Claims 33-36, 42-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brax and Nakano as applied to claims 24-27, 30 above and further in view of SCHIRMACHER (US 4915145).

Brax and Nakano disclose a device as stated above.

Art Unit: 2855

They do not explicitly teach the particular loading art with a contained, as stated in claim 33. They do not teach that the processing device is programmable.

SCHIRMACHER discloses a loading system and method controlling liquid material into a container including a probe and rod sensing the level of liquid, the connecting line considered a "loading arm" which extends from the source of material to introduce the material into the container, the probe is attached to the arm the liquid being introduced through a shut-off valve 10; and a programmed processor 24 responsive to signals from the level indicator to shut the valve in order to stop the flow of liquid to the container to the container when the stop condition is sensed. The loading system is disclosed as being capable of use for loading tank trucks (Col. 1), so it would not be inventive to adapt the system and method for loading sulfur into tank trucks as claimed by SCHIRMACHER discloses a loading system and method controlling liquid material into a container. Schirmacher teaches a rod sensing the level of liquid, the connecting line considered a "loading arm" which extends from the source of material to introduce the material into the container, the probe is attached to the arm; the liquid being introduced through a shut-off valve 10; and a programmed processor 24 responsive to signals from the level indicator to shut the valve in order to stop the flow of liquid to the container to the container when the stop condition is sensed.

The loading system is disclosed as being capable of use for loading tank trucks (Col. 1), so it would not be inventive to adapt the system and method for loading sulfur into tank trucks.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device disclosed by Brax and Nakano, so as to make it usable with the contained of Schirmacher because the level of the molten metal needs to be known during loading/ unloading the container.

The method steps will be met during the normal operation of the device stated above.

Claims 33-36, 42-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davis and Nakano as applied to claims 24-27, 30 above and further in view of SCHIRMACHER (US 4915145).

Davis and Nakano disclose a device as stated above.

They do not explicitly teach the particular loading art with a contained, as stated in claim 33. They do not teach that the processing device is programmable.

SCHIRMACHER discloses a loading system and method controlling liquid material into a container including a probe and rod sensing the level of liquid, the connecting line considered a "loading arm" which extends from the source of material to introduce the material into the container, the probe is attached to the arm the

Art Unit: 2855

liquid being introduced through a shut-off valve 10; and a programmed processor 24 responsive to signals from the level indicate to shut the valve in order to stop the flow of liquid to the container to the container when the stop condition is sensed. The loading system is disclosed as being capable of use for loading tank trucks (Col. 1), so it would not be inventive to adapt the system and method for loading sulfur into tank trucks as claimed by SCHIRMACHER discloses a loading system and method controlling liquid material into a container. Schirmacher teaches a rod sensing the level of liquid, the connecting line considered a "loading arm" which extends from the source of material to introduce the material into the container, the probe is attached to the arm; the liquid being introduced through a shut-off valve 10; and a programmed processor 24 responsive to signals from the level indicator to shut the valve in order to stop the flow of liquid to the container to the container when the stop condition is sensed.

The loading system is disclosed as being capable of use for loading tank trucks (Col. 1), so it would not be inventive to adapt the system and method for loading sulfur into tank trucks.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device disclosed by Davis and Nakano, so as to make it usable with the contained of Schirmacher because the level of the molten metal needs to be known during loading/ unloading the container.

The method steps will be met during the normal operation of the device stated above.

Claims 37-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brax, Nakano and SCHIRMACHER, as applied to claims 33-37, 42-44 above, and further in view of AREKAPUDI.

Brax, Nakano and SCHIRMACHER disclose the device as stated above.

They do not explicitly teach that the probe can be an RTD or a transistor.

AREKAPUDI teaches that a thermocouple and a resistance temperature detector (RTD) are art recognized equivalent temperature sensors in the field of liquid level control. Transistors are also well known equivalent temperature sensors.

Therefore, it would have been obvious to substitute a resistance temperature detector (RTD) or a transistor temperature detector for the thermocouple temperature sensor used in the probe of Brax, Nakano and SCHIRMACHER as taught or suggested by AREKAPUDI in order to measure the temperature of the probe.

The method steps will be met during the normal operation of the device stated above.

Art Unit: 2855

Claims 37-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davis, Nakano and SCHIRMACHER, as applied to claims 33-37, 42-44 above, and further in view of AREKAPUDI.

Davis, Nakano and SCHIRMACHER disclose the device as stated above.

They do not explicitly teach that the probe can be an RTD or a transistor.

AREKAPUDI teaches that a thermocouple and a resistance temperature detector (RTD) are art recognized equivalent temperature sensors in the field of liquid level control. Transistors are also well known equivalent temperature sensors.

Therefore, it would have been obvious to substitute a resistance temperature detector ('RTD) or a transistor temperature detector for the thermocouple temperature sensor used in the probe of Davis, Nakano and SCHIRMACHER as taught or suggested by AREKAPUDI in order to measure the temperature of the probe.

The method steps will be met during the normal operation of the device stated above.

Claims 39, 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brax, Nakano and SCHIRMACHER as applied to claims 33-37, 42-44 above, and further in view of Kemp (U.S. 6202486).

Brax, Nakano and SCHIRMACHER disclose the device as stated above.

They do not explicitly teach the limitations of claims 39, 46.

Kemp discloses a device in the field of applicant's endeavor comprising a plurality of thermocouples within a rod having a stainless steel 24. Thermocouples TC3 and TC4 opening/ closing valve for delivering the liquid in the container. This would imply that there is a loading arm responding to the signals from these two thermocouples. This would imply that the programming/ loading/ unloading could be set such a way so as to respond either positive or negative difference between the thermocouple data. The device also has a processing device/ voltmeter 61, as shown in Fig. 5.

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to determine the liquid level of the molten metal by determining the difference between the indications of two temperature sensing devices and shut of the delivery depending on the indication signals as, in order to keep the required level of molten metal in the container.

The method steps will be met during the normal operation of the device stated above.

Claims 39, 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davis, Nakano and SCHIRMACHER as applied to claims 33-37, 42-44 above, and further in view of Kemp (U.S. 6202486).

Davis, Nakano and SCHIRMACHER disclose the device as stated above.

They do not explicitly teach the limitations of claims 39, 46.

Kemp discloses a device in the field of applicant's endeavor comprising a plurality of thermocouples within a rod having a stainless steel 24. Thermocouples TC3 and TC4 opening/ closing valve for delivering the liquid in the container. This would imply that there is a loading arm responding to the signals from these two thermocouples. This would imply that the programming/ loading/ unloading could be set such a way so as to respond either positive or negative difference between the thermocouple data. The device also has a processing device/ voltmeter 61, as shown in Fig. 5.

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to determine the liquid level of the molten metal by determining the difference between the indications of two temperature sensing devices and shut of the delivery depending on the indication signals as, in order to keep the required level of molten metal in the container.

The method steps will be met during the normal operation of the device stated above.

Claim 45 is rejected under 35 U.S.C. 103(a) as being unpatentable over Davis, Nakano and SCHIRMACHER as applied to claims 33-37, 42-44 above, and further in view of JP 62261928 A [hereinafter JP].

Davis, Nakano and SCHIRMACHER disclose the device as stated above.

They do not explicitly teach the limitations of claim 45.

JP discloses a plurality of temperature sensing devices 3(1) – 3(n) wherein when a liquid level in a tank/ container fluctuates, the sensor 3(1) is in a vapor phase and sensor 3(n) is in a liquid phase. JP teaches to compute mean/ average normalized temperature. There is a function between the liquid level and the mean/ average

Art Unit: 2855

temperature. It is inherent that the temperature of a temperature sensor could be compared with the mean/ average temperature.

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to determine the mean/ average temperature of the liquid, so as to take necessary actions based on the mean/ average temperature of the liquid, as very well known in the art.

The method steps will be met during the normal operation of the device stated above.

Claim 45 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brax, Nakano and SCHIRMACHER as applied to claims 33-37, 42-44 above, and further in view of JP 62261928 A [hereinafter JP].

Davis, Nakano and SCHIRMACHER disclose the device as stated above.

They do not explicitly teach the limitations of claim 45.

JP discloses a plurality of temperature sensing devices 3(1) – 3(n) wherein when a liquid level in a tank/ container fluctuates, the sensor 3(1) is in a vapor phase and sensor 3(n) is in a liquid phase. JP teaches to compute mean/ average normalized temperature. There is a function between the liquid level and the mean/ average temperature. It is inherent that the temperature of a temperature sensor could be compared with the mean/ average temperature.

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to determine the mean/ average temperature of the liquid, so as to take necessary actions based on the mean/ average temperature of the liquid, as very well known in the art.

The method steps will be met during the normal operation of the device stated above.

Claim 45 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brax, Natano and SCHIRMACHER as applied to claims 33-37, 42-44 above, and further in view of Dennison (U.S. 5228329).

Art Unit: 2855

Davis, Natano and SCHIRMACHER disclose the device as stated above.

They do not explicitly teach the limitations of claim 45.

Dennison teaches to obtain an average temperature in remote/ different locations and then determine the difference between the average and individual temperature data in order to determine the fluid level. This would imply that the average data is being used as a predetermined/ threshold/ reference data.

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to determine the mean/ average temperature of the liquid, so as to take necessary actions based on the mean/ average temperature of the liquid, as very well known in the art.

The method steps will be met during the normal operation of the device stated above.

Claim 46 is rejected under 35 U.S.C. 103(a) as being unpatentable over Davis, Nakano, and SCHIRMACHER as applied to claims 33-37, 42-44 above, and further in view of Egidio (U.S. 7004625, effective filing date 05/21/2002).

Davis, Nakano and SCHIRMACHER disclose the device as stated above.

They do not explicitly teach the limitations of claim 46.

Egidio discloses a device in the field of applicant's endeavor wherein Egidio teaches to determine temperature gradient and thus difference between a first/ top temperature sensor and a sensor below. The data is provided to a monitoring/ processing device

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to determine the temperature difference/ gradient between the temperature sensors, as taught Egidio, so as to enable the operator to compare it with a reference data, in order to determine the level of liquid in the container, as very well known in the art.

The method steps will be met during the normal operation of the device stated above.

Art Unit: 2855

Claim 46 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brax, Nakano, and SCHIRMACHER as applied to claims 33-37, 42-44 above, and further in view of Egidio (U.S. 7004625, effective filing date 05/21/2002).

Brax, Nakano and SCHIRMACHER disclose the device as stated above.

They do not explicitly teach the limitations of claim 46.

Egidio discloses a device in the field of applicant's endeavor wherein Egidio teaches to determine temperature gradient and thus difference between a first/ top temperature sensor and a sensor below. The data is provided to a monitoring/ processing device

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to determine the temperature difference/ gradient between the temperature sensors, as taught Egidio, so as to enable the operator to compare it with a reference data, in order to determine the level of liquid in the container, as very well known in the art.

The method steps will be met during the normal operation of the device stated above.

Allowable Subject Matter

Claims 40-41 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art cited in the PTO-892 and not mentioned above disclose related devices and methods.

JP 62261928 A discloses a plurality of temperature sensing devices 3(1) – 3(n) wherein when a liquid level in a tank/ container fluctuates, the sensor 3(1) is in a vapor phase and sensor 3(n) is in a liquid phase. JP teaches to compute mean/ average normalized temperature. There is a function between the liquid level and the mean/ average

Art Unit: 2855

temperature. It is inherent that the temperature of a temperature sensor could be compared with the mean/ average temperature.

Yuki et al. (U.S. 5385200) [hereinafter Yuki] discloses a device in the field of applicant's endeavor comprising obtaining a molten metal temperature by measuring thermocouple and comparing the temperature with a predetermined temperature.

Kempf et al. (U.S. 6059453) [hereinafter Kempf] discloses the device in the field of applicant's endeavor comprising a thermocouple or RTD probe rod for measuring a liquid temperature, the probe having a housing/ terminal head resting on its edge 22 on the container (mounting ring 16 welded to the container) with the liquid, as shown in Fig. 1.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gail Verbitsky whose telephone number is 571/ 272-2253. The examiner can normally be reached on 7:30 to 4:00 ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on 571/ 272-2180. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Gail Verbitsky
Primary Patent Examiner, TC 2800

Application/Control Number: 10/551,736
Art Unit: 2855

Page 14

November 06, 2008

/Gail Verbitsky/
Primary Examiner, Art Unit 2855